Form 9-331 C
(May 1963)

SUBMIT IN TRIPLICATE*
(Other instructions on reverse side)

Form approved.
Budget Bureau No. 42-R1425.

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

APPLICATION FOR PERMIT TO DRILL, DEEPEN, OR PLUG BACK

5. LEASE DESIGNATION AND SERIAL NO.: U-5675

6. IF INDIAN, ALLOTTEE OR TRIBE NAME: —

7. UNIT AGREEMENT NAME: —

1a. TYPE OF WORK: DRILL ☒ DEEPEN ☐ PLUG BACK ☐

b. TYPE OF WELL: OIL WELL ☒ OR GAS WELL ☒ OTHER — SINGLE ZONE ☒ OR MULTIPLE ZONE ☒

8. FARM OR LEASE NAME: Federal

2. NAME OF OPERATOR: The Anschutz Corporation, Inc.

9. WELL NO.: #2 Federal 675

3. ADDRESS OF OPERATOR: 1110 Denver Club Building, Denver, Colorado 80202

10. FIELD AND POOL, OR WILDCAT: Wildcat

4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements.*)
At surface: 1000' FNL, 1000' FEZ
At proposed prod. zone: Same

11. SEC., T., R., M., OR BLK. AND SURVEY OR AREA: Sec. 9, T20S-R21E

14. DISTANCE IN MILES AND DIRECTION FROM NEAREST TOWN OR POST OFFICE*: Approximately 23 miles from Thompson, Utah

12. COUNTY OR PARISH: Grand

13. STATE: Utah

15. DISTANCE FROM PROPOSED* LOCATION TO NEAREST PROPERTY OR LEASE LINE, FT. (Also to nearest drlg. unit line, if any): 1000'

16. NO. OF ACRES IN LEASE: 840 Ac

17. NO. OF ACRES ASSIGNED TO THIS WELL: 40 OR 80 (Oil) ~~320~~ Ac 160 (Gas)

18. DISTANCE FROM PROPOSED LOCATION* TO NEAREST WELL, DRILLING, COMPLETED, OR APPLIED FOR, ON THIS LEASE, FT.:

19. PROPOSED DEPTH: 3180

20. ROTARY OR CABLE TOOLS: Rotary

21. ELEVATIONS (Show whether DF, RT, GR, etc.): 5694' ungraded ground elevation

22. APPROX. DATE WORK WILL START*: 15, Aug. 1977

23. PROPOSED CASING AND CEMENTING PROGRAM

SIZE OF HOLE	SIZE OF CASING	WEIGHT PER FOOT	SETTING DEPTH	QUANTITY OF CEMENT
12 1/4"	8 5/8"	24#	200	180 sacks
7 7/8"	4 1/2"	9.5#	3180	200 sacks

1. Drill 12 1/4" hole to 200' and set surface casing.
2. Drill 8 5/8" hole to T. D.
3. Log B.O.P. tests daily.
4. Run electric logs; if productive, run 4 1/2" casing.
5. Run other logs as needed, perforate and stimulate as needed.
6. This well is a Topographic Exception; moved 480' to SW from C NE NE because of cliffs.

THIS REPORT COVERS THREE WELLS

Exhibits Attached

"A" Location and Elevation
"B" Ten-Point Compliance Program
"C" Blowout Preventer Diagram
"D" Multipoint Requirements
"E" Access Road Map
"F" Map of Existing Wells
"G" Drill Pad Layout; Cut & Fill
"H" Drill Rig and Production Facilities

IN ABOVE SPACE DESCRIBE PROPOSED PROGRAM: If proposal is to deepen or plug back, give data on present productive zone and proposed new productive zone. If proposal is to drill or deepen directionally, give pertinent data on subsurface locations and measured and true vertical depths. Give blowout preventer program, if any.

24.

SIGNED George Fentress TITLE Agent Consultant for The Anschutz Corporation DATE June 25, 1977

George Fentress

(This space for Federal or State office use)

PERMIT NO. 43-019-30377 APPROVAL DATE

APPROVED BY TITLE DATE

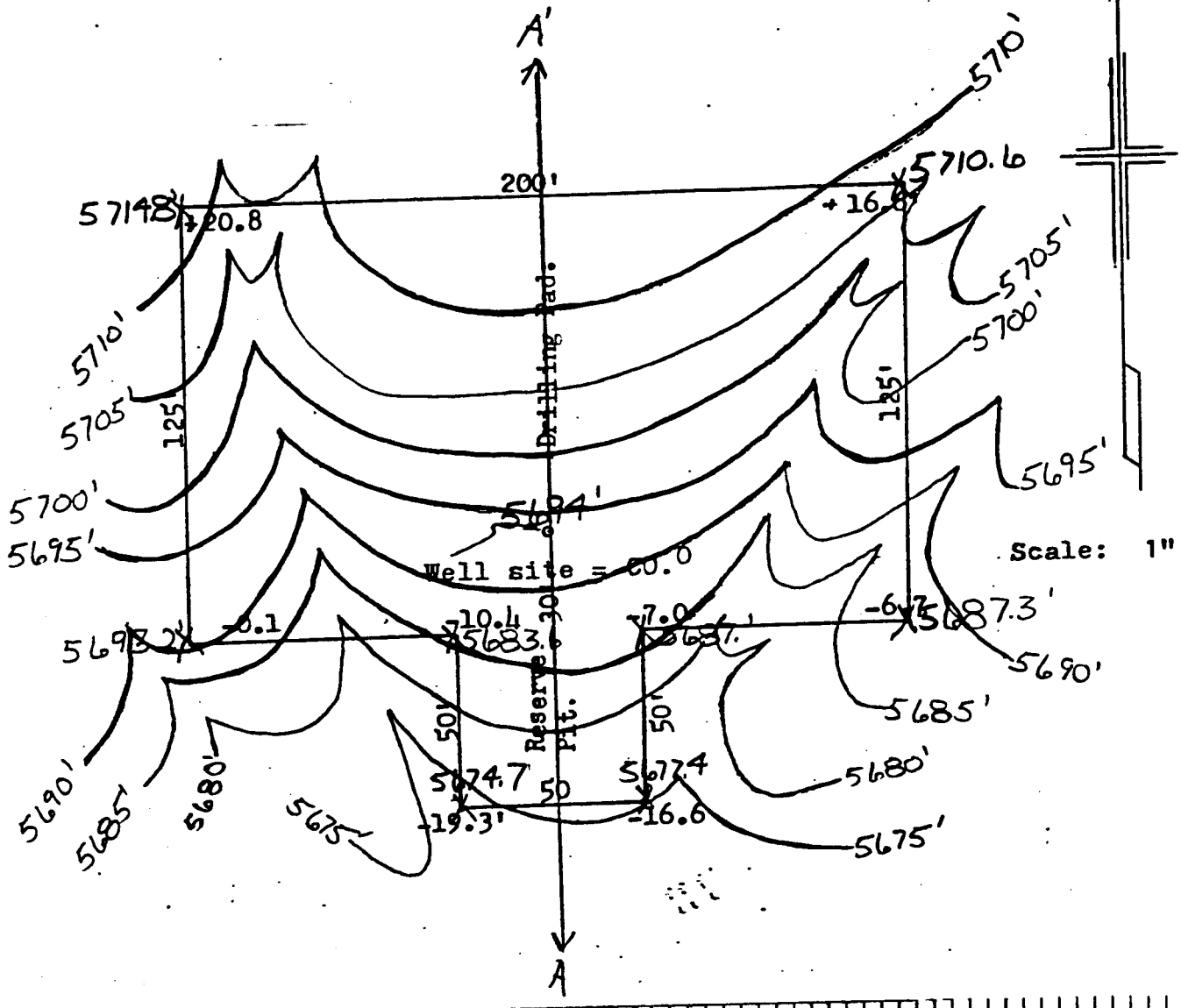
CONDITIONS OF APPROVAL, IF ANY:

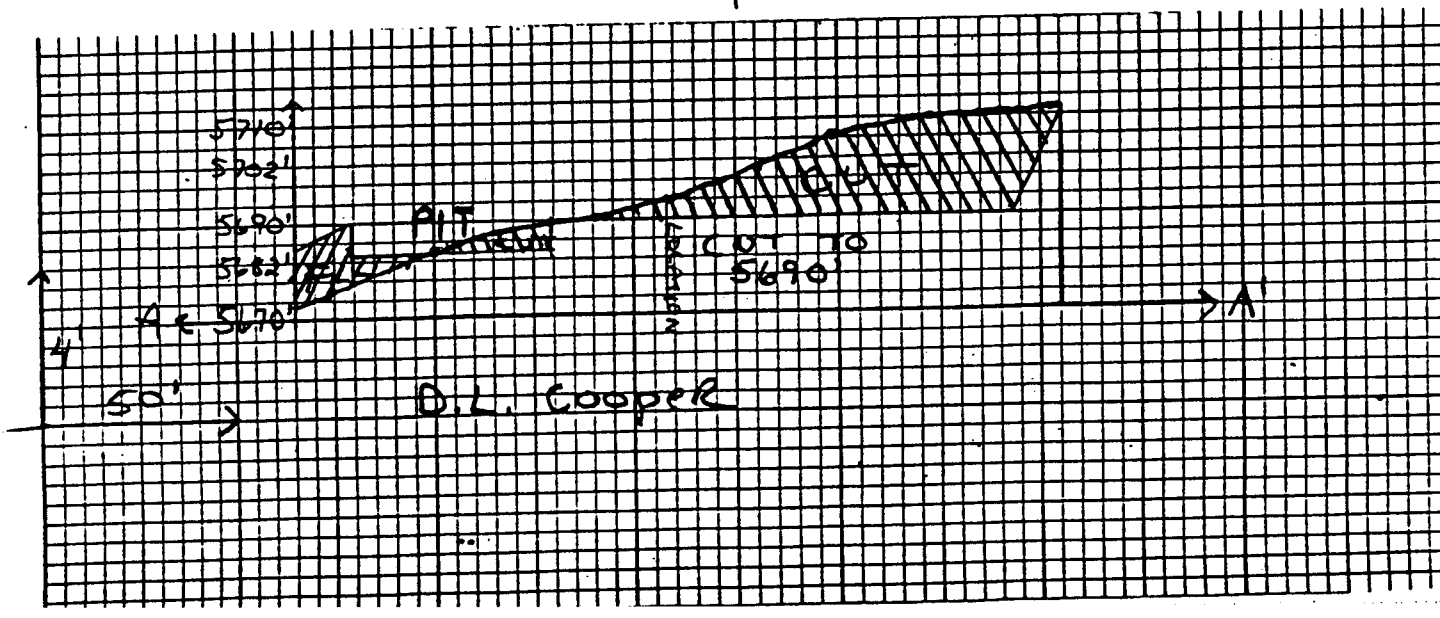
*See Instructions On Reverse Side

Anschutz Corporation
#2 Federal-675
1000'FN & 1000'FE 9-20S-21E
Grand County, Utah

by: Leonard Chrisman
Powers Elevation Company, Inc.

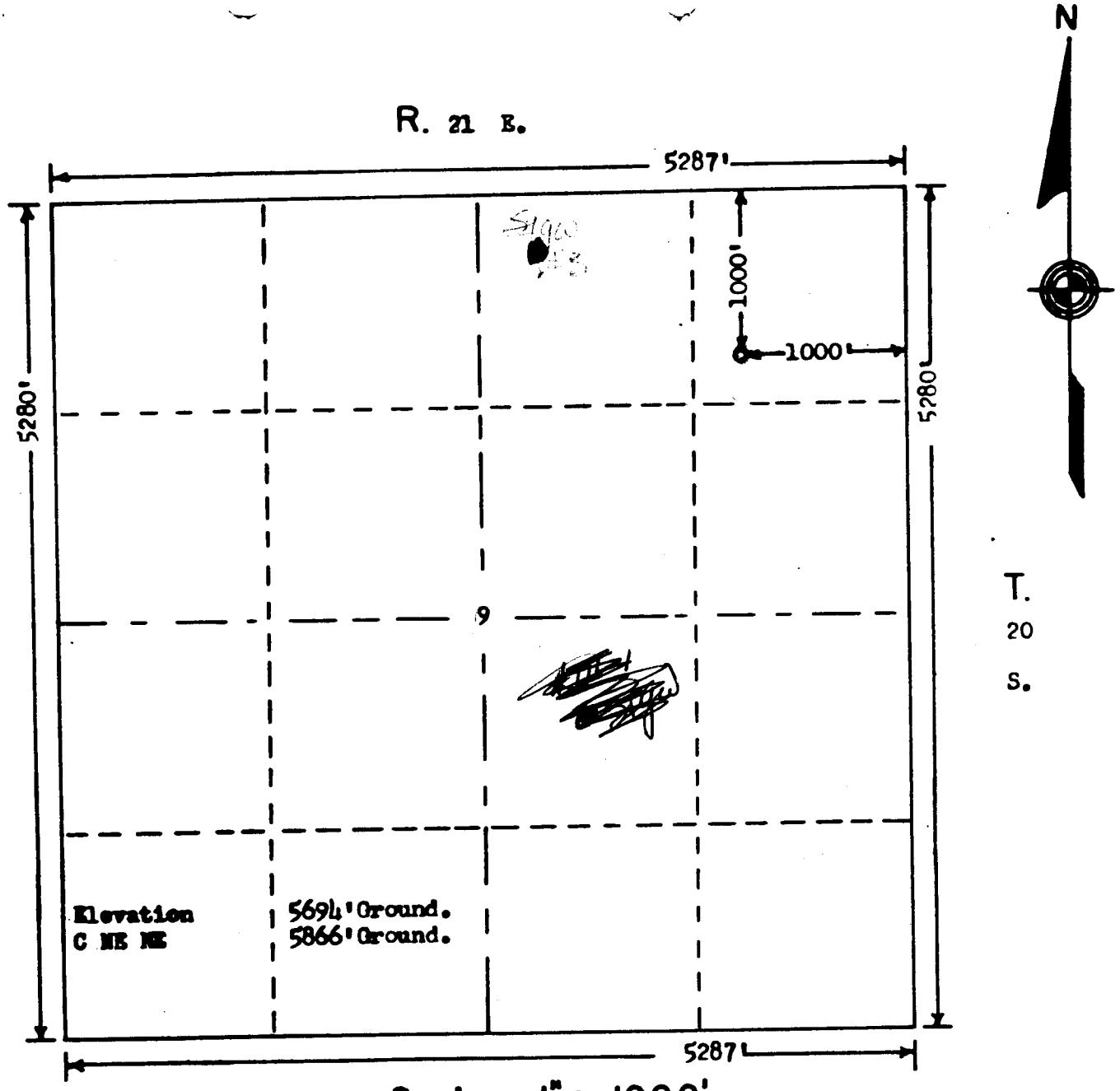
EXHIBIT "G"





FORM F-106

EXHIBIT "A"



Scale··· 1" = 1000'

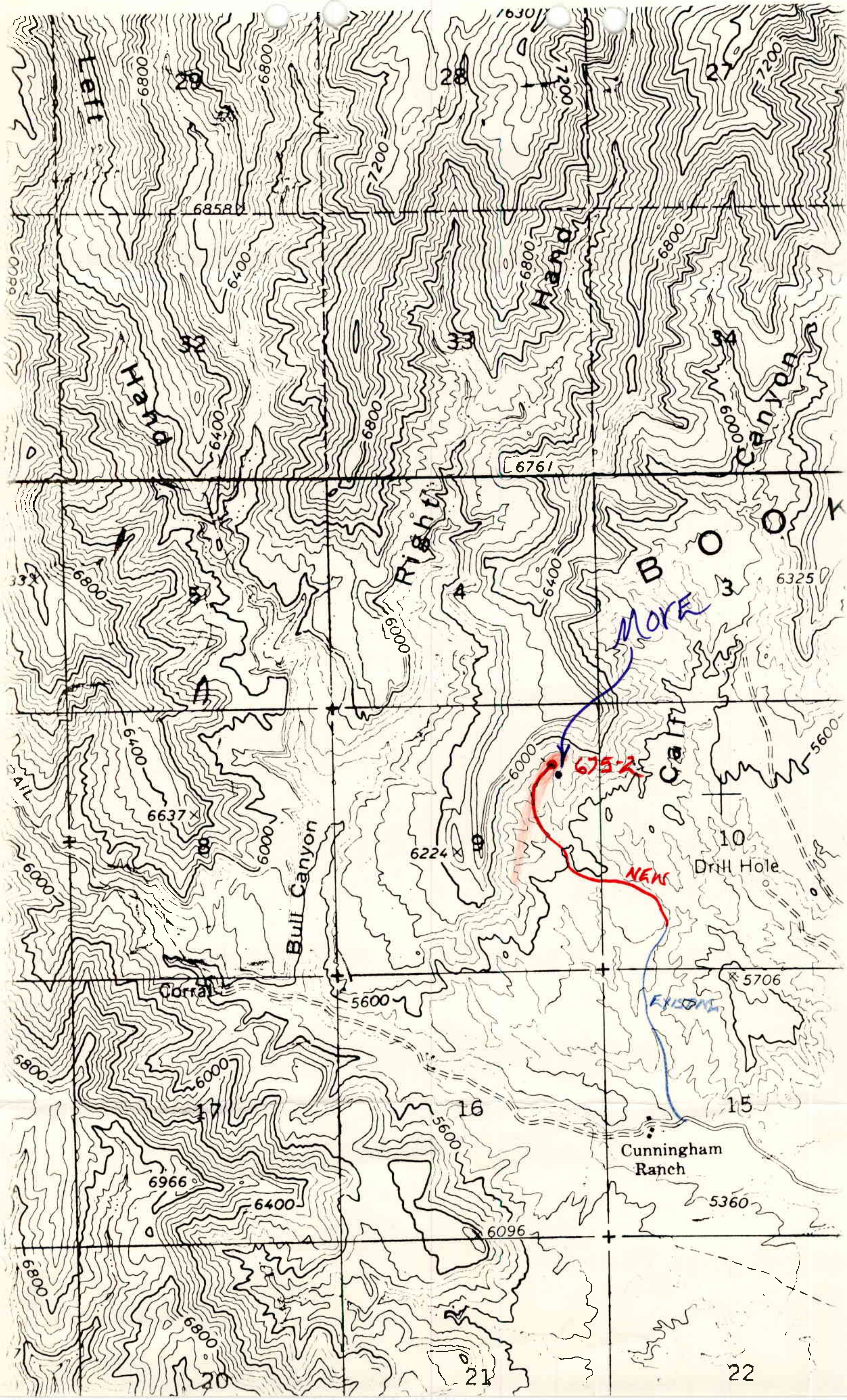
Powers Elevation Company, Inc. of Denver, Colorado has in accordance with a request from George Fentress for Anschutz Corporation determined the location of #2 Federal-675 to be 1000'FN & 1000'FE Section 9 Township 20 S. Range 21 E. of the Salt Lake Principal Meridian Grand County, Utah

I hereby certify that this plat is an accurate representation of a correct survey showing the location of #2 Federal-675

Date: 5-27-77

J Thelen

Licensed Land Surveyor No. 2711
State of Utah


Left
Hand
Right
Hand
Canyon
B O O K
Cam
Bull Canyon
Corral
Drill Hole
Cunningham
Ranch
MORE
675-2
NEW
EXISTING
29
28
27
32
33
34
5
4
3
8
9
10
17
16
15
20
21
22
6858
6761
6325
6637
6224
5706
5600
5360
6966
6400
6096

Simplified Rig Layout
Small Location
Exhibit "H"
#2-Federal 675

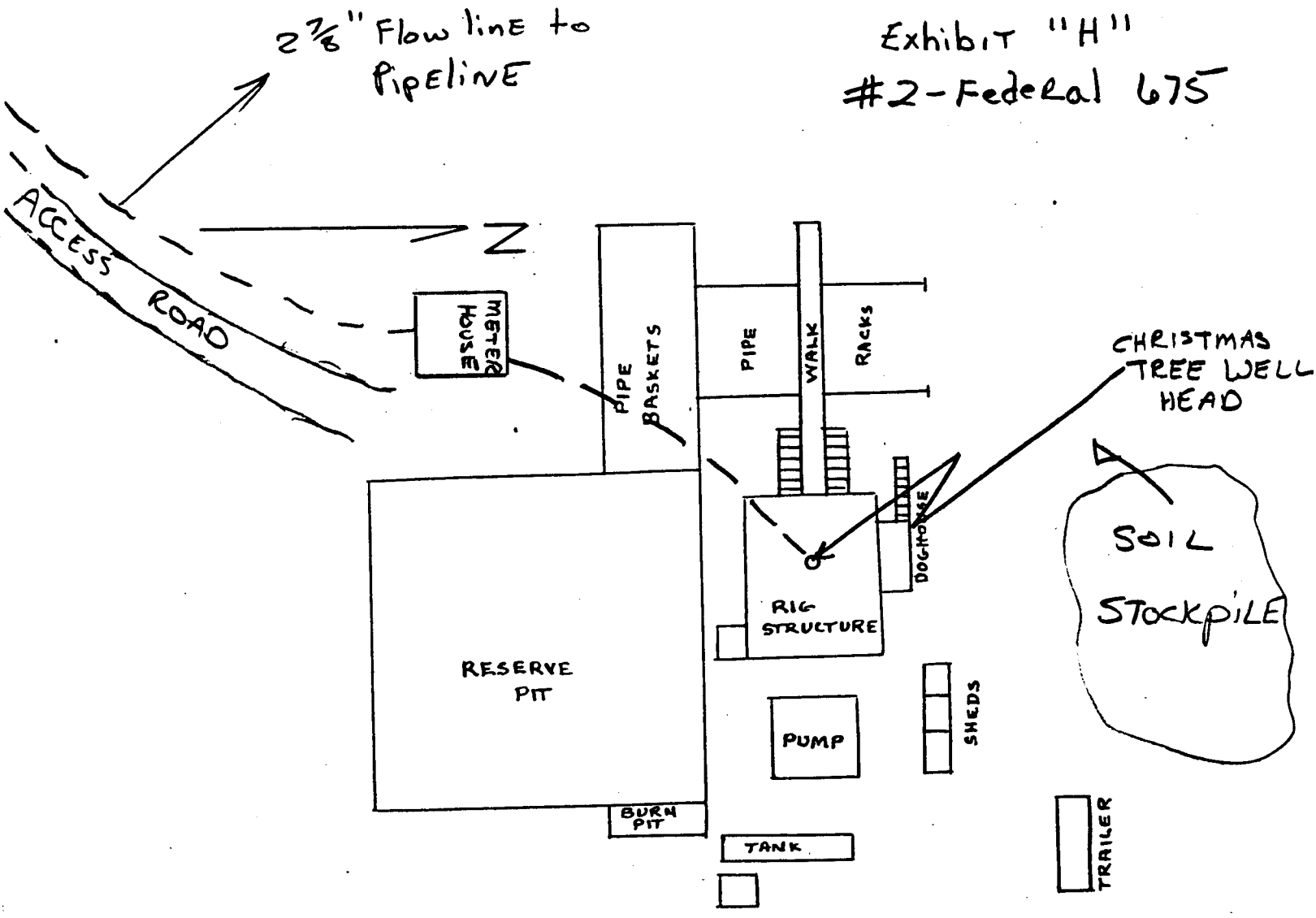


EXHIBIT "B"
Ten Point Compliance Program of NTL-6
Approval of Operations

Attached to Form 9-331 C
The Anschutz Corporation
#1 Federal 675
660' FNL 2104' FWL
Sec. 10, T 20 S - R 21 E
#2 Federal 675
1000' FNL, 1000' FEL
Sec. 9, T 20 S - R 21 E
#1 Federal 104
500' FNL, 1400' FEL
Sec. 4, T 20 S - R 21 E
All in Grand County, Utah

1. The Geologic Surface Formation

All three wells are situated on the edge of the Book Cliffs. The surface formation is the dark gray Mancos Shale. This shale forms the bare, steep hills of badlands-type topography. The cliffs immediately above #2-675 are composed of the resistent buff and gray fine grained massive Castlegate sandstone. Both the Castlegate and the Mancos are Upper Cretaceous in age .

A short distance from the cliffs the Mancos is covered by pediment deposits. These flat erosional surfaces are evident over a large portion of this area. The #1-675 site is located on a terrace of this pediment complex.

2. Estimated Important Geologic Markers

Formation	#1 Fed 675 Depth	#2 Fed 675 Depth	#1 Fed 104 Depth
Mancos Shale	Surface	Surface	Surface
Dakota Sandstone	2522	2879	3369
Cedar Mountain	2666	3023	--
Morrison	2712	3069	3509
Salt Wash	--	--	3600
Entrada	--	--	3790
E TD	2820	3180	3910

3. Estimated Depths of Anticipated Water, Oil, Gas or Minerals

Formation	#1 Fed 675		#2 Fed 675		#1 Fed 104	
	Depth	Fluid	Depth	Fluid	Depth	Fluid
Dakota	2522	Water	2879	Water	3369	Water
Cedar Mountain	2666	Oil	3023	Oil	--	--
Morrison	2712	Tight	3069	Tight	3509	Oil
Salt Wash	--	--	--	--	3600	Tight
Entrada	—	—	—	—	3790	Gas

4. The Proposed Casing Program

All three wells will run 200' of 8 5/8" new K-55, 24# casing in a 12 1/4" surface hole. Casing will be set with 180 sacks of Class G cement with return flow to the surface.

In the event of production, each well will set 4 1/2" new J-55 9.5# Production casing in a 7 7/8" hole at T.D. This will be set with 200 sacks of 50-50 Posmix with 2% Gel and 2% $CaCl_2$.

5. The Operator's Minimum Specifications for Pressure Control

Exhibit "C" is a schematic diagram of the blowout preventer equipment planned for use in these wells. The BOP's will be hydraulically tested to the full working pressure after nippling up and after any use under pressure. Pipe rams will be operationally checked each 24 hour period. The blind rams and annula preventer will be checked each time pipe is pulled out of the hole. All testings will be recorded in the daily drill sheets. Accessories to BOP's include upper and lower kelly cock, floor safety valve, drill string BOP and choke manifold with pressure rating equivalent to the BOP stack.

6. The Type and Characteristics of Proposed Muds

(a) It is planned that each well will be drilled with air from the base of the surface casing to the total depth. If air is abandoned, then (b) and (c) will be used.

(b) If air drilling is abandoned, then the hole will be drilled with native muds to 4000'.

(c) From 4000' to TD the hole will be drilled with Chem-Gel with the mud weighted as necessary for good hole conditions. The water loss will be kept from 8 to 12 cc and the viscosity between 35 and 45.

7. The Auxilliary Equipment to be Used

(a) A kelly cock will be kept in the string at all times.
(b) A float will be used at the bit at all times.
(c) A gas detecting device will monitor the system.
(d) A stabbing valve will be on the floor to be stabbed into the drill pipe when kelly cock is not in the string.

8. The Testing, Logging, and Coring Programs

(a) All valid shows will be tested. The objective for each well is the Morrison Formation.

(b) If air drilled, an induction log will be run from TD to the base of the surface casing and gamma ray, compensated formation density, and sidewall neutron porosity logs will be run at the minimum footage. If the hole is fluid filled, a dual induction log will be run from TD to the base of the surface casing and gamma ray, compensated formation density, and compensated neutron logs will run at the minimum footage.

(c) No coring is anticipated.

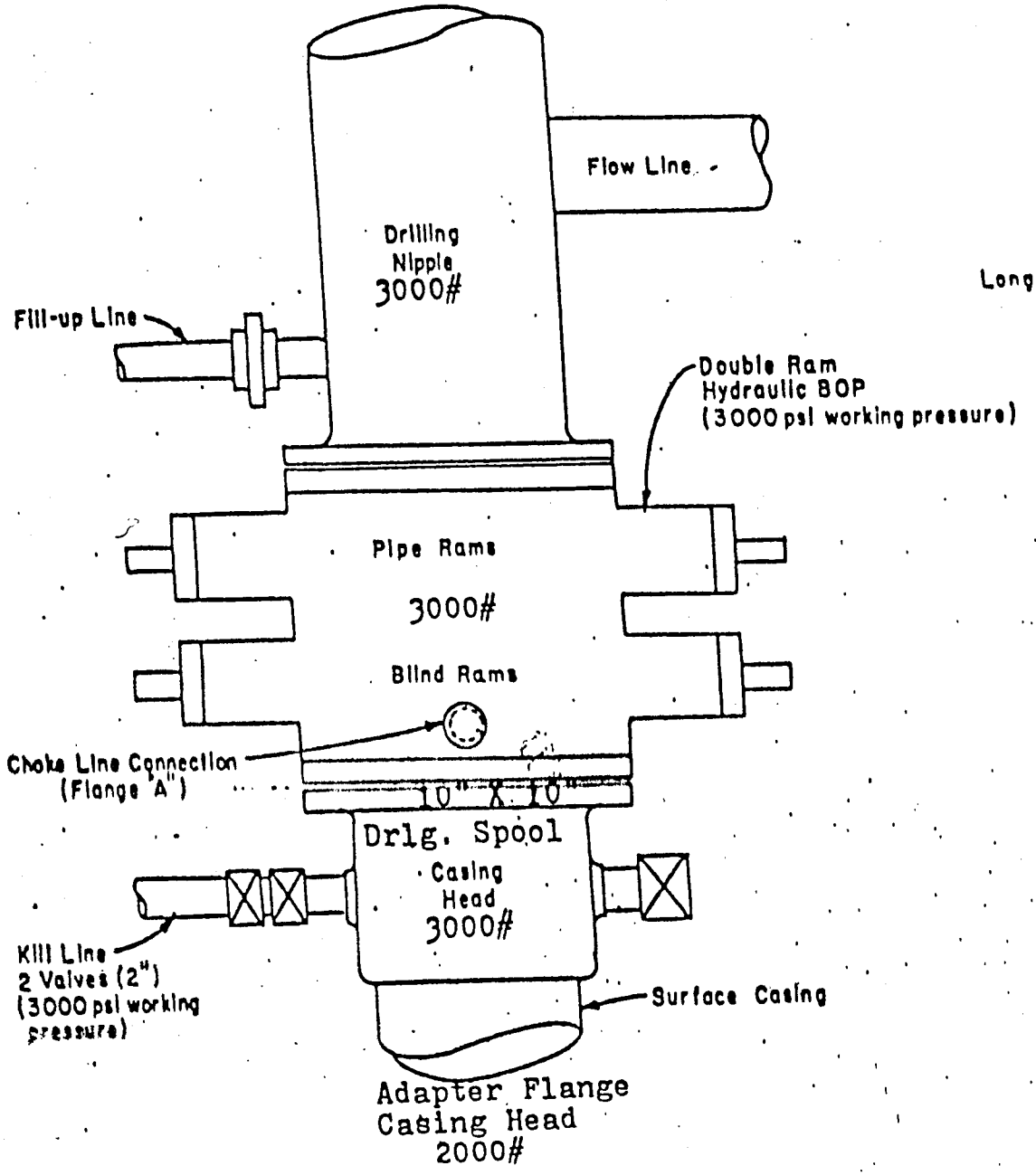
9. Any Anticipated Abnormal Pressures or Temperatures Expected

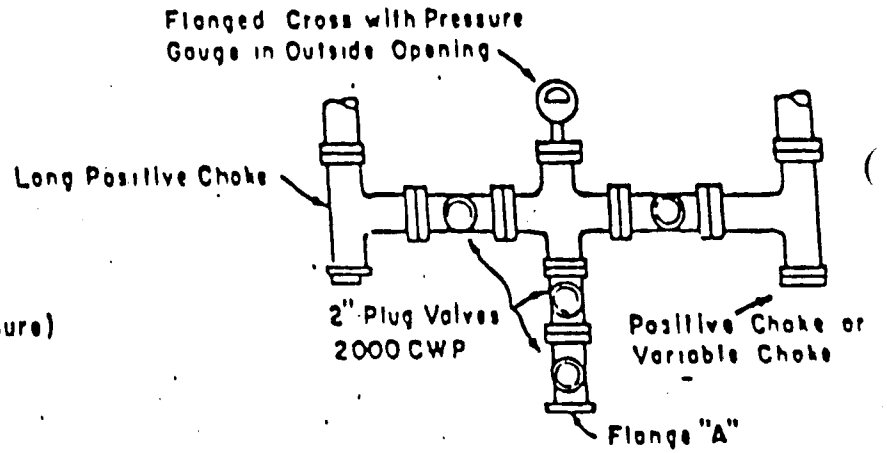
No abnormal pressures or temperatures have been noted or reported in the wells drilled in this area to these depths. No hydrogen sulphide or other hazardous gases or fluids have been found reported or known to exist at these depths in this area.

10. The Anticipated Starting Date and Duration of Operations

The anticipated starting date is set for August 15, 1977, or as soon as possible after examination of the surface and approval of all drilling requirements.

It is anticipated that each well should be completed within 20 days after spudding the well.





PLAN VIEW - CHOKE MANIFOLD

Blowout Preventer Diagram

Anschutz Corporation

#1 - Federal 675
#2 - Federal 675
#1 - Federal 104

EXHIBIT "C"

EXHIBIT "D"
Multipoint Requirements to Accompany APD

Attached to Form 9-331C
The Anschutz Corporation
#1 Federal 675
660' FNL, 2104' FWL
Sec. 10, T 20 S - R 21 E
#2 Federal 675
1000' FNL, 1000' FWL
Sec. 9, T 20 S, R 21 E
All in Grand County, Utah

#1 Federal 104
500' FNL, 1400' FEL
Sec. 4, T 20 S, R 21 E

1. Existing Roads

A. EXHIBIT "A", 1 and 2 Federal 675 and 1 Federal 104 are the proposed well sites as staked by Powers Elevation Service, and the ground elevations are shown thereon.

B. EXHIBIT "E" is a color coded map prepared from the Southeastern Central Utah Map no. 2 of the Utah Travel Council. One travels 18 miles on I-70 from Thompson, Utah, east to the Cisco exit. It is approximately 11 miles northwest on gravel and dirt road to the three locations. The red color in Exhibit "E" indicates good, passable road, and green represents access road which must be constructed.

C. EXHIBIT "F" is prepared from $7\frac{1}{2}$' U.S.G.S. Sego Canyon Topographic Quandrangle. The red color shows the existing, usable road. The green color indicates the roads which must be built to provide access to each location.

D. All known existing roads within the required 3 mile radius are shown in Exhibits "E" and "F".

E. These are not development wells.

2. Planned access Roads

(1), (2), (3), (4), (5). The short access roads are shown in green in Exhibit "F". These roads need not exceed 16 feet. The grades will be steep at places and there will be no need for turnouts or culverts. The roads have been flagged and cut-fill and drainage design will be accomplished as the roads are constructed.

(6) No surfacing materials will be needed during drilling operations. If production is obtained, the access roads will be surfaced with local stream gravel.

(7) No gates, fence cuts, or cattle guards are needed.

(8) The access roads will all be less than 1,000' in length and therefore do not need to be center line flagged.

3. Location of Existing Wells

A one mile radius from each of the proposed development wells is indicated in Exhibit "F". All known wells and their current status are indicated thereon.

(1) No known water wells exist in the area.

(2) Exhibit "F" shows all the dry holes within the required two mile radius.

(3), (4), (5). There are no known temporarily abandoned wells, disposal wells, or drilling wells in the area.

(6) All known producing wells are indicated in Exhibit "F" with the appropriate symbol.

(7), (8), (9). There are no known shut-in, injection, or observation wells in this area.

4. Location of Existing and/or Proposed Facilities

A. There are no existing facilities owned or controlled by operator within a 1 mile radius of the location.

B. (1) Exhibit "H" shows all anticipated drilling and production facilities.
(2) The dimensions of the facilities shown on Exhibit "H" are roughly drawn to scale of 1 inch = 50 feet.

(3) No materials other than that available on location are anticipated to be needed for construction.
(4) Rehabilitation, whether the well is productive or dry, will be made on unused areas as soon as possible in accordance with plans drafted in Item 10 following. No water production is anticipated which would require flagging.

5. Location and Type of Water Supply

Water, if needed, will be obtained from the perennial stream in Nash Wash.

6. Construction Materials

A, B, C, D. No construction materials are needed for drilling operations. The sand, gravel and rock located in situ are adequate for any construction necessary in connection with either dry or producing wells. There are no access routes needed for crossing Indian land. The access routes for crossing Federal land are shown in green in Exhibit "F".

7. Handling Waste Disposals

(1) Drill cuttings will be buried in the reserve pit when covered.

(2) Drilling fluids will also be handled in the reserve pit.

(3) Any fluids produced while drill stem testing or producing or other testing will be collected in a test tank set near the pipe baskets or near the well head. Any unavoidable spills of oil or other adverse substances or materials will be covered or removed immediately during drilling progress or during completion operations.

(4) Any sewage will be covered or removed.

(5) Garbage, wastes and non-flammable wastes, salts and other chemicals produced or used during drilling or testing will be handled in the reserve pit or kept in the trash or burn pit. The trash or burn pit will be covered with small wire mesh to prevent scattering.

(6) The reserve pit, in addition to the trash or burn pit, will be fenced on three sides during drilling operations, and iron or other posts and wire fencing will be available on each location immediately upon cessation of drilling and the fourth side if the reserve pit will be fenced prior to full removal of the rig from the location. Any other dangerous or harmful pits or sewage areas will also be fenced or covered at the time rig moved off location.

8. Ancillary Facilities

No airstrips, camps, or other living facilities will be built or needed.

9. Well Site Layout

(1) Exhibit "G", 1 and 2 Federal 675 and #1 Federal 104, are the drill pad layouts as staked by Powers Elevation Company. The elevation contours have been drawn on these plats by Beathard. The cut and fill cross section for each location is designated A-A' and location has been constructed from these contours. The top 6 inches of soil will be stockpiled as shown on each plat. The location of the excess material removed during the drill pad preparation is also shown on each plat.

(2) The mud tanks, pits, rig orientation, etc. for all 3 wells are Exhibit "H". If the wells are drilled by air, these facilities may change accordingly.

(3) Exhibit "H", also shows the rig orientation, parking areas and access roads for each location.

(4) The reserve pit will not be lined for #2-675 and #1-104. #1-675 will be lined. Steel mud pits, if used, will be shown in Exhibit "H".

10. Plans for Restoration

(1) Backfilling, leveling and contouring will be accomplished as soon as possible after plugging of each well, or immediately on those areas unused if production is obtained. Waste disposal and spoils materials will be buried or hauled away immediately before rig moves off location.

(2) Rehabilitation will be accomplished by spreading the banked topsoil over the area and contouring the banks that will be created in this heavily eroded area so that vegetation planted will be best protected from erosion. Revegetation will be accomplished using grasses or mixtures suited best for the dry, arid conditions encountered here. The access roads will be revegetated as needed.

(3) Prior to rig release, the fourth side of the reserve pit at each drill site will be fenced and maintained until clean up operations are finished.

(4) Any oil or spills will be immediately cleaned up or flagged.

(5) Rehabilitation operations will commence as soon as the rig moves off location. However, revegetation will be delayed until the fall of 1977 or the spring of 1978 for optimum growth potential.

11. Other Information

(1) All three wells are located at the southern edge of the Book Cliffs. The area consists of steep bare shale hills and ridges of badlands-type topography. #1-675 is

situated on a terrace below one of the pediment surfaces extending from the base of the cliffs. The site of #2-675 originally fell on a steep talus slope halfway to the top of the cliffs. This site was moved 480' to the southwest to the bottom of the slope. #1-104 is situated on a pediment bench approximately 1 mile north of #2-675.

The soil at #1-675 is a sandy silty clay, derived from the Mancos Shale. It supports a sparse flora consisting of Juniper, Sage, Snakeweed, Cactus, Shadscale and some grasses.

The sites of #2-675 and #1-104 are composed almost entirely of talus rubble and as such has very little soil. The only vegetation here is Shadscale, Snakeweed and sparse grass. Juniper is present on some of the hill slopes. Both sites are highly erodible.

The observed animal population is rabbit and lizards, with evidence of domestic sheep and cattle. Other wildlife indigenous to the semiarid environment is presumed to exist.

(2) Grazing is the only observed current surface use in this area. The ownership of the surface is Federal. Private land is crossed only on existing roads.

(3) #1-675 is on a terrace 50 feet above a dry stream bed. This stream should not be impacted as the reserve pit will be lined and no oil or chemical runoff will be permitted. (Refer to Item 7 above). #2-675 and #1-104 are not near any water.

All the sites have been surveyed for evidence of cultural resources of both historic and prehistoric origin. All the sites have been cleared and approved. The access roads will be surveyed before construction begins. Reference is made to the archaeological report of the Agency of Conservation Archaeology of the San Juan County Museum dated 6 June, 1977, prepared by Pat Zarnowski. Copies of this report have been distributed to all concerned agencies.

The commencement dates for all three wells is scheduled for approximately 5 August, 1977, or as soon as possible after approval.

12. Lessee's or Operator's Representative

George H. Fentress
Environmental Engineering Company
Agent Consultant for The Anschutz Corporation
1645 Court Place, Suite 229
Denver, Colorado 80202

Phone: (303) 892-1506
Res: (303) 279-4880

Phil Herrington
The Anschutz Corporation, Inc.
1110 Denver Club Building
Denver, Colorado 80202

Phone: (303) 573-5665
Res: (303) 494-0576

13. Certification

I hereby certify that I, or persons under my direct supervision, have inspected the proposed drillsite and access route; that I am familiar with the conditions which presently exist; that the statements made in this plan are, to the best of my knowledge, true and correct; and, that the work associated with the operations proposed herein will be performed by The Anschutz Corporation, Inc. and its contractors and sub-contractors in conformity with this plan and their terms and conditions under which it is approved.

Date: June 25, 1977

George H. Fentress

Name: George H. Fentress
Title: Agent Consultant for
The Anschutz Corporation

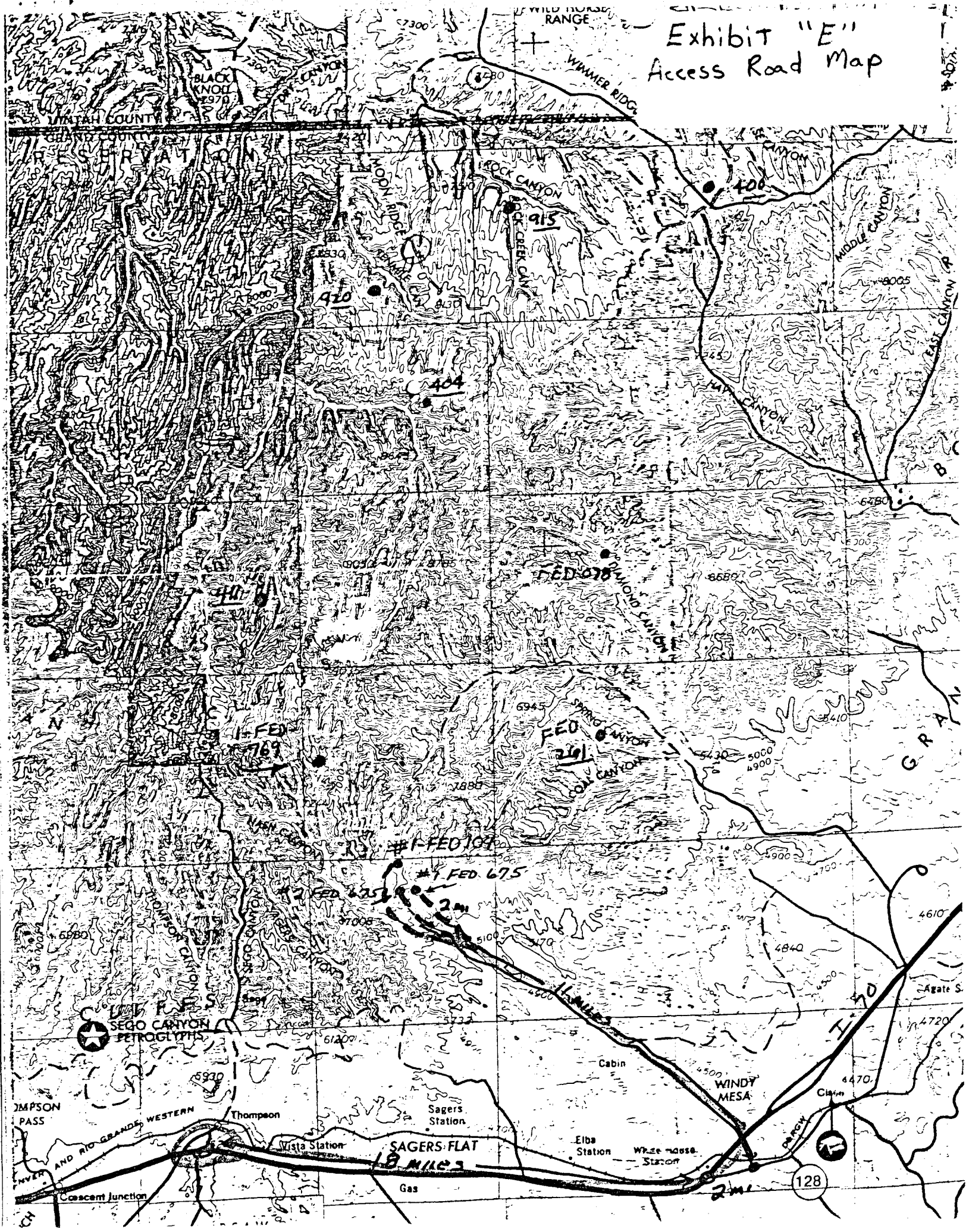
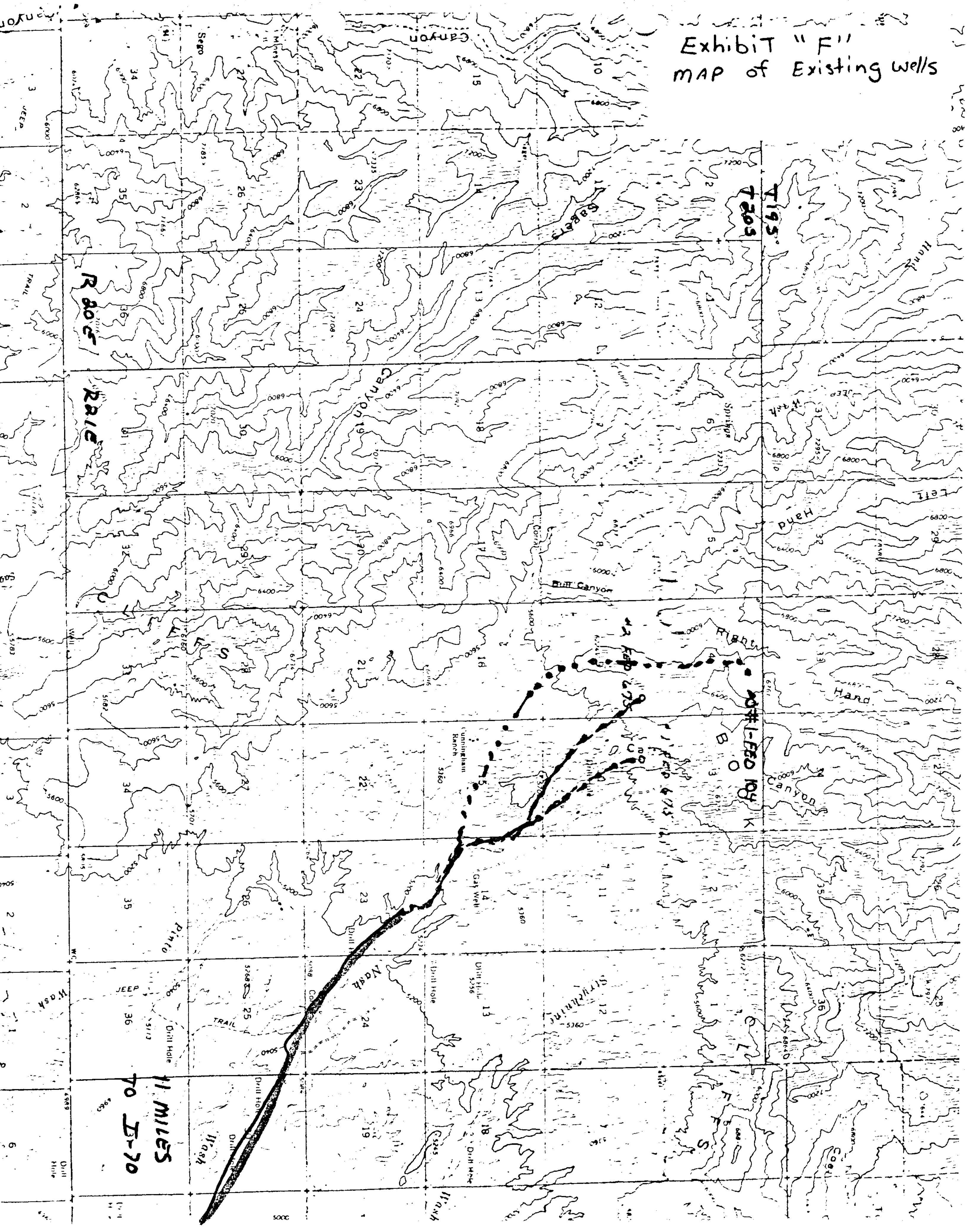


Exhibit "E"
Access Road Map
WILD HORSE RANGE
WINTAH COUNTY
RESERVATION
BLACK KNOLL 7970
WIMMER RIDGE
MOON RIDGE
ROCK CANYON
ROCK CREEK CANYON
MIDDLE CANYON
EAST CANYON
915
420
404
400
FED 078
DIAMOND CANYON
SPRING CANYON
FED 261
COAL CANYON
#1-FED 675
#2 FED 675
#1-FED 101
2 MILES
SEGO CANYON PETROGLYPHS
Cabin
WINDY MESA
Agate S.
I-50
Thompson
Sagers Station
Vista Station
SAGERS FLAT
18 Miles
Elba Station
White House Station
Gas
Crescent Junction
2mi
128

Exhibit "F"
MAP of Existing wells



STATE OF UTAH
DIVISION OF OIL, GAS, AND MINING

** FILE NOTATIONS **

Date: July 1 -

Operator: Anschutz Corp.

Well No: #2 Fed. 6-5

Location: Sec. 9 T. 20S R. 21E County: Grand

File Prepared /✓/ Entered on N.I.D. /✓/ API ✓

Card Indexed /✓/ Completion Sheet /✓/

CHECKED BY:

Administrative Assistant Sw

Remarks: Outside spaced area - 102-12

Petroleum Engineer OK [illegible]

Remarks:

Director 7 OK TOPO.

Remarks:

INCLUDE WITHIN APPROVAL LETTER:

Bond Required /✓ Fed/ Survey Plat Required / /

Order No. ________ / / Surface Casing Change / /
to ________

Rule C-3(c), Topographic exception/company owns or controls acreage within a 660' radius of proposed site / /

O.K. Rule C-3 /✓/ O.K. In ________ Unit / /

Other:

Not Completed in same interval as well in NWNE.

/✓/ Letter Written/~~Approved~~

ENVIRONMENTAL ENGINEERING COMPANY
Professional Engineering Services

P. O. Box 3341
Casper, Wyoming 82601
Phone (307) 234-6186

1645 Court Place
Suite 229
Denver, Colorado 80202
Phone (303) 892-1506

July 19, 1977

Cleon Feight
Utah Oil & Gas $ Mining
1588 West, North Temple
Salt Lake City, Utah 84116

RE: Permits to drill
Anschutz Corporation
Various wells
Grand Co., Utah

Dear Cleon:

Enclosed are several items on the above with comments or questions, as follows:

(1) REVISED TYPE OF WORK ON 9-331C AND ACRES ASSIGNED:
On Anschutz #1 & #2 Federal 675 and #1 Federal 104, and
#1, #2, #3 and #4 Federal 335

AMEND TO READ: "Oil Well or Gas Well" "single or multiple zones" (1a and 1b).
"40-acres or 80-acres, if an oil well", and
"160-acres or as spaced, if gas well, and to not produce from same gas zone horizon of any other gas wells within the spacing unit area" (#17 on 9-331C).

Revised copies of Form 9-331 C are enclosed for changes.

(2) ANSCHUTZ #1, #2, #3 and #4 FEDERAL 335:

It is possible I have not sent you applications for permission to drill the four wells. Therefore these applications are enclosed, together with location plats and maps.

(3) STATUS OF REQUESTS TO DRILL BY ANSCHUTZ:

I enclose a three-page status sheet of wells ready or being prepared to drill by Anschutz, on which I have worked. Would you kindly examine this report and advise me of any changes from this or any reports that you might need. I believe all these wells have now been filed with you now, and, I am wanting to make certain that Utah has approved, or is about to approve, all of these locations as noted.

I am most appreciative of all the help you have given us there in the Oil, Gas and Mining Division.

Best wishes!

George H. Fentress
Agent Consultant Anschutz

cc. Anschutz

July 26, 1977

The Anschutz Corporation
1110 Denver Club Building
Denver, Colorado 80202

Re: Well No's:
#1 Federal 104,
Sec. 4, T. 20 S, R. 21 E,
#2 Federal 675
Sec. 9, T. 20 S, R. 21 E,
Grand County, Utah

Gentlemen:

Insofar as this office is concerned, approval to drill the above referred to well is hereby granted in accordance with Rule C-3(c), General Rules and Regulations and Rules of Practice and Procedure. However, the approval to drill the #2 Federal 675 shall be contingent upon said well not being completed in the same stratigraphic interval as the well located in the NW1/4 of the NE 1/4 of Section 9.

Should you determine that it will be necessary to plug and abandon this well, you are hereby requested to immediately notify the following:

PATRICK L. DRISCOLL - Chief Petroleum Engineer
HOME: 582-7247
OFFICE: 533-5771

Enclosed please find Form OGC-8-X, which is to be completed whether or not water sands (aquifers) are encountered during drilling.

Further, it is requested that this Division be notified within 24 hours after drilling operations commence, and that the drilling contractor and rig numberbe identified.

The API number assigned to this well is 43-019-30385 (Fed. 104) and 43-019-30384 (Fed. 675).

Very truly yours,

DIVISION OF OIL, GAS, AND MINING

CLEON B. FEIGHT
Director

Form 9-331 C
(May 1963)

SUBMIT IN TRIPLICATE*
(Other instructions on reverse side)

Form approved.
Budget Bureau No. 42-R1425.

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

APPLICATION FOR PERMIT TO DRILL, DEEPEN, OR PLUG BACK

1a. TYPE OF WORK: DRILL ☒ DEEPEN ☐ PLUG BACK ☐

b. TYPE OF WELL: OIL WELL ☐ GAS WELL ☒ OTHER — SINGLE ZONE ☒ MULTIPLE ZONE ☐

2. NAME OF OPERATOR: The Anschutz Corporation, Inc.

3. ADDRESS OF OPERATOR: 1110 Denver Club Building, Denver, Colorado 80202

4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements.*)
At surface: ~~1000'~~ 1141' FNL, ~~1000'~~ 859' FEL NE NE
At proposed prod. zone: Same

5. LEASE DESIGNATION AND SERIAL NO.: U-5675

6. IF INDIAN, ALLOTTEE OR TRIBE NAME: —

7. UNIT AGREEMENT NAME: —

8. FARM OR LEASE NAME: Federal

9. WELL NO.: #2 Federal 675

10. FIELD AND POOL, OR WILDCAT: Wildcat

11. SEC., T., R., M., OR BLK. AND SURVEY OR AREA: Sec. 9, T20S-R21E

12. COUNTY OR PARISH: Grand

13. STATE: Utah

14. DISTANCE IN MILES AND DIRECTION FROM NEAREST TOWN OR POST OFFICE*: Approximately 23 miles from Thompson, Utah

15. DISTANCE FROM PROPOSED* LOCATION TO NEAREST PROPERTY OR LEASE LINE, FT. (Also to nearest drlg. unit line, if any): 1000'

16. NO. OF ACRES IN LEASE: 840 Ac

17. NO. OF ACRES ASSIGNED TO THIS WELL: 320 Ac

18. DISTANCE FROM PROPOSED LOCATION* TO NEAREST WELL, DRILLING, COMPLETED, OR APPLIED FOR, ON THIS LEASE, FT.:

19. PROPOSED DEPTH: 3180

20. ROTARY OR CABLE TOOLS: Rotary

21. ELEVATIONS (Show whether DF, RT, GR, etc.): 5694' ungraded ground elevation

22. APPROX. DATE WORK WILL START*: 15, Aug. 1977

23. PROPOSED CASING AND CEMENTING PROGRAM

SIZE OF HOLE	SIZE OF CASING	WEIGHT PER FOOT	SETTING DEPTH	QUANTITY OF CEMENT
12 1/4"	8 5/8"	24#	200	180 sacks
7 7/8"	4 1/2"	9.5#	3180	200 sacks

Approval Notice — Utah State Oil & Gas

1. Drill 12 1/4" hole to 200' and set surface casing.
2. Drill 8 5/8" hole to T. D.
3. Log B. O. P. tests daily.
4. Run electric logs; if productive, run 4 1/2" casing.
5. Run other logs as needed, perforate and stimulate as needed.
6. This well is a Topographic Exception; moved 480' to SW from C NE NE because of cliffs.

THIS REPORT COVERS THREE WELLS

Exhibits Attached

"A" Location and Elevation
"B" Ten-Point Compliance Program
"C" Blowout Preventer Diagram
"D" Multipoint Requirements
"E" Access Road Map
"F" Map of Existing Wells
"G" Drill Pad Layout; Cut & Fill
"H" Drill Rig and Production Facilities

IN ABOVE SPACE DESCRIBE PROPOSED PROGRAM: If proposal is to deepen or plug back, give data on present productive zone and proposed new productive zone. If proposal is to drill or deepen directionally, give pertinent data on subsurface locations and measured and true vertical depths. Give blowout preventer program, if any.

24. SIGNED George Eentress — TITLE Agent Consultant for The Anschutz Corporation — DATE June 25, 1977
George Eentress

(This space for Federal or State office use)

PERMIT NO. _____ APPROVAL DATE _____

APPROVED BY (ORIG. SGD.) E. W. GUYNN — TITLE DISTRICT ENGINEER — DATE SEP 14 1977

CONDITIONS OF APPROVAL, IF ANY:

*See Instructions On Reverse Side

U.S. GEOLOGICAL SURVEY, CONSERVATION DIVISION

FROM: DISTRICT GEOLOGIST, SALT LAKE CITY, UTAH

TO: DISTRICT ENGINEER, SALT LAKE CITY, UTAH

Well	Location	Lease No.
ANSCHUTZ CORPORATION, INC. #2 FEDERAL 675	1000'FNL & 1000'FEL (NE¼ NE¼) SEC. 9, T. 20S., R. 21E., SLM GRAND Co, UTAH Gr. El. 5694'	U-5675

1. Stratigraphy and Potential Oil and Gas Horizons. The well will spud in mancos shale. Toledo mining Co. 2 (Bull Canyon) (Gr. El. 5993') same section, reported the following tops: Surface - mancos, Dakota - 3290', Cedar mountain - 3364', Morrison - 3444', Summerville - 3966', Entrada - 4055'.

2. Fresh Water Sands.

Near surface lenticular sandstone beds in the mancos may contain usable water to about 500± feet.

3. Other Mineral Bearing Formations. (Coal, Oil Shale, Potash, Etc.) This location falls within boundary considered valuable prospectively for geothermal resources. Land is also considered valuable prospectively for coal; however at this location well will spud stratigraphically below the important coal zones of the Price River Formation. Lower mancos or Dakota coals probably have no economic value in this area.

4. Possible Lost Circulation Zones

Dakota and Morrison sands.

5. Other Horizons Which May Need Special Mud, Casing, or Cementing Programs. Protect any fresh water aquifers penetrated.

6. Possible Abnormal Pressure Zones and Temperature Gradients. High pressure zones may exist in the Dakota, Cedar mountain and Morrison Formations.

7. Competency of Beds at Proposed Casing Setting Points. Weathered shale will be cased off.

8. Additional Logs or Samples Needed.

None.

9. References and Remarks Within Bull Canyon KGS.

Fischer, 1936, USGS Bull 852

Date: JUL 20 1977 Signed: R.E.G.

State of Utah

ATTACHMENT 2-A

SUMMARY OF ENVIRONMENTAL IMPACT EVALUATION

EIA NO. 611A

DATE 8-25-77

OPERATOR Anschutz
LEASE # U-5675
WELL NO. 2 fed 675
LOC. ¼NE¼NW SEC. 10
T. 20S R. 21E
COUNTY Grand STATE Ut
FIELD Wildcat
USGS Cook
BLM Cygnet
REP: Khure
DIRT

[0] ENHANCES
[ ] NO IMPACT
[/] MINOR IMPACT
[X] MAJOR IMPACT

		Construction				Pollution				Drilling Production						Transport Operations			Accidents		Others
		Roads, bridges, airports	Transmission lines, pipelines	Dams & impoundments	Others (pump stations, compressor stations, etc.)	Burning, noise, junk disposal	Liquid effluent discharge	Subsurface disposal	Others (toxic gases, noxious gas, etc.)	Well drilling	Fluid removal (Prod. wells, facilities)	Secondary Recovery	Noise or obstruction of scenic views	Mineral processing (ext. facilities)	Others	Trucks	Pipelines	Others	Spills and leaks	Operational failure	
Land Use	Forestry NA																				
	Grazing ✓	/		/		/	/			/			/			/			/	/	
	Wilderness NA																				
	Agriculture NA																				
	Residential-Commercial NA																				
	Mineral Extraction NA																				
	Recreation ✓	0		/		/	/			/			/			/			/	/	
	Scenic Views ✓	/		/		/	/			/			/			/			/	/	
	Parks, Reserves, Monuments NA																				
	Historical Sites	none known																			
	Unique Physical Features NA																				
Flora & Fauna	Birds ✓	/		/		/	/			/			/			/			/	/	
	Land Animals ✓	/		/		/	/			/			/			/			/	/	
	Fish NA																				
	Endangered Species	none known																			
	Trees, Grass, Etc. ✓	/		/		/	/			/						/			/	/	
Phy. Charact.	Surface Water NA																				
	Underground Water ?																				
	Air Quality ✓	/		·		/				/						/					
	Erosion ✓	/		/		/				/						/			/	/	
	Other																				
	Effect On Local Economy ✓	0		0						0						0					
	Safety & Health ✓	/		/		/				/						/			/	/	
	Others																				

Loc moved 200' SE

Orig - Fee
cc: Reg - Denver
BLM - Moab w/o attach
Utah State Oil and Gas

EIA NO. 611

LEASE U-5675 DATE 8-25-77

WELL NO. #2 Federal 675

LOCATION: NE ¼ NW ¼, SEC. 9, T. 20S, R. 21E,

FIELD _____ COUNTY Grand STATE Utah

ENVIRONMENTAL IMPACT ANALYSIS - ATTACHMENT 2-B

I. PROPOSED ACTION

Anschutz Corporation (COMPANY) PROPOSES TO DRILL AN OIL AND GAS TEST WELL WITH ROTARY TOOLS TO ABOUT 3180 FT. TD. 2) TO CONSTRUCT A DRILL PAD 125 FT. X 200 FT. AND A RESERVE PIT 50 FT. X 50 FT. 3) TO CONSTRUCT 18 FT. WIDE X [redacted] / MILES ACCESS ROAD AND UPGRADE _____ FT. WIDE X _____ MILES ACCESS ROAD FROM AN EXISTING AND IMPROVED ROAD. TO CONSTRUCT ☑ GAS ☐ OIL PRODUCTION FACILITIES ON THE DISTURBED AREA FOR THE DRILL PAD ~~AND ☐ TRUCK ☐ TRANSPORT THE PRODUCTION THROUGH A PIPELINE TO A TIE-IN IN SECTION _____, T. _____, R. _____.~~

2. LOCATION AND NATURAL SETTING (EXISTING ENVIRONMENTAL SITUATION).

(1) TOPOGRAPHY: ☐ ROLLING HILLS ☐ DISSECTED TOPOGRAPHY ☐ DESSERT OR PLAINS ☑ STEEP CANYON SIDES ☑ NARROW CANYON FLOORS ☐ DEEP DRAINAGE IN AREA ☐ SURFACE WATER _____

(2) VEGETATION: ☑ SAGEBRUSH ☑ PINION-JUNIPER ☐ PINE/FIR ☐ FARMLAND (CULTIVATED) ☑ NATIVE GRASSES ☐ OTHER _____

(3) WILDLIFE: [✓] DEER [ ] ANTELOPE [ ] ELK [ ] BEAR [✓] SMALL MAMMAL [✓] BIRDS [ ] ENDANGERED SPECIES [ ] OTHER _____

(4) LAND USE: [✓] RECREATION [✓] LIVESTOCK GRAZING [ ] AGRICULTURE [ ] MINING [ ] INDUSTRIAL [ ] RESIDENTIAL [✓] OIL & GAS OPERATIONS

REF: BLM UMBRELLA EAR Oil & Gas Leasing Program
~~USFS EAR~~ Grand Resource Area August 13, 1975
~~OTHER ENVIRONMENTAL ANALYSIS~~

3. Effects on Environment by Proposed Action (potential impact)

1) EXHAUST EMISSIONS FROM THE DRILLING RIG POWER UNITS AND SUPPORT TRAFFIC ENGINES WOULD ADD MINOR POLLUTION TO THE ATMOSPHERE IN THE LOCAL VICINITY.

2) MINOR INDUCED AND ACCELERATED EROSION POTENTIAL DUE TO SURFACE DISTURBANCE AND SUPPORT TRAFFIC USE.

3) MINOR VISUAL IMPACTS FOR A SHORT TERM DUE TO OPERATIONAL EQUIPMENT AND SURFACE DISTURBANCE.

4) TEMPORARY DISTURBANCE OF WILDLIFE AND LIVESTOCK.

5) MINOR DISTRACTION FROM AESTHETICS FOR SHORT TERM.

6)

4. Alternatives to the Proposed Action

1) NOT APPROVING THE PROPOSED PERMIT -- THE OIL AND GAS LEASE GRANTS THE LESSEE EXCLUSIVE RIGHT TO DRILL FOR, MINE, EXTRACT, REMOVE AND DISPOSE OF ALL OIL AND GAS DEPOSITS.

2) DENY THE PROPOSED PERMIT AND SUGGEST AN ALTERNATE LOCATION TO MINIMIZE ENVIRONMENTAL IMPACTS. NO ALTERNATE LOCATION ON THIS LEASE WOULD JUSTIFY THIS ACTION.

3) LOCATION WAS MOVED 200 ft South East TO AVOID

☐ LARGE SIDEHILL CUTS ☐ NATURAL DRAINAGE ☐ OTHER

4) So as not to be built under Rock ledge for safty reasons, at operators request

5. Adverse Environmental Effects Which Cannot Be Avoided

1) MINOR AIR POLLUTION DUE TO EXHAUST EMISSIONS FROM RIG ENGINES AND SUPPORT TRAFFIC ENGINES.

2) MINOR INDUCED AND ACCELERATED EROSION POTENTIAL DUE TO SURFACE DISTURBANCE AND SUPPORT TRAFFIC USE.

3) MINOR AND TEMPORARY DISTURBANCE OF WILDLIFE.

4) TEMPORARY DISTURBANCE OF LIVESTOCK.

5) MINOR AND SHORT-TERM VISUAL IMPACTS.

6)

6. DETERMINATION:

(THIS REQUESTED ACTION (IS) (DOES NOT) CONSTITUTE A MAJOR FEDERAL ACTION SIGNIFICANTLY AFFECTING THE ENVIRONMENT IN THE SENSE OF NEPA, SECTION 102(2) (C).

DATE INSPECTED 8-25-77

INSPECTOR E. R. Cook

E W Guynn

U. S. GEOLOGICAL SURVEY
CONSERVATION DIVISION - OIL & GAS OPERATIONS
SALT LAKE CITY DISTRICT

THE ANSCHUTZ CORPORATION

1110 DENVER CLUB BUILDING
518 SEVENTEENTH STREET
DENVER, COLORADO 80202
TELEPHONE 303—573-5665

September 22, 1977

Mr. Cleon B. Feight, Director
Division of Oil, Gas and Mining
1588 West, North Temple
Salt Lake City, Utah 84116

Re: Federal 675 No. 2
Section 9-20S-21E
Grand County, Utah

Dear Mr. Feight:

We wish to move the Federal 675 No. 2 location 200' SE. This was discussed with Mr. Russ Cook (U.S.G.S.) and Mr. Rocky Curnitt (BLM). It was agreed that this movement would be better for safety and environmental reasons. In terms of safety, a 200' SE change will move the pad away from the base of a very steep cliff. Environmentally the move will get the pad out of the center of the drainage pattern.

Since this change will put the location at about 120' from the ¼ ¼ line we must request an exception to the 200' regulation. Thank you.

Sincerely,

W. Lee Kuhre

W. Lee Kuhre
Operations Coordinator

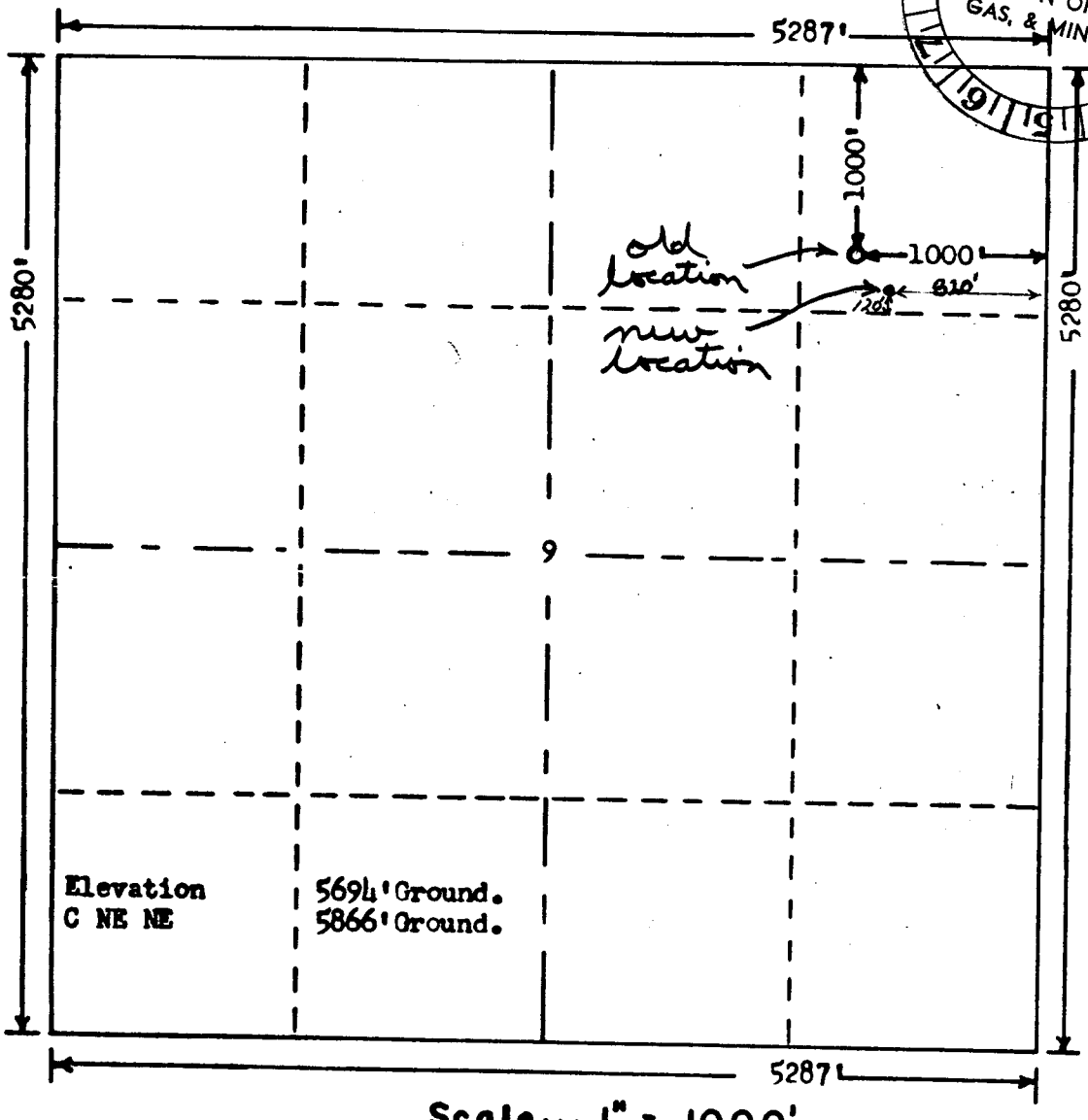
WLK:ch

Enclosure

Denied

CIRCULATE TO:
DIRECTOR
PETROLEUM ENGINEER
MINE COORDINATOR
ADMINISTRATIVE ASSISTANT
ALL
RETURN TO
FOR FILING

R. 21 E.



Scale... 1" = 1000'

Powers Elevation Company, Inc. of Denver, Colorado has in accordance with a request from George Fentress for Anschutz Corporation determined the location of #2 Federal-675 to be 1000'FN & 1000'FE Section 9 Township 20 S. Range 21 E. of the Salt Lake Principal Meridian Grand County, Utah

I hereby certify that this plat is an accurate representation of a correct survey showing the location of #2 Federal-675

Date: 5-27-77

T Rebeam

Licensed Land Surveyor No. 2711
State of Utah

STATE OF UTAH
DEPARTMENT OF NATURAL RESOURCES
DIVISION OF OIL, GAS, AND MINING
1588 West North Temple
Salt Lake City, Utah 84116
(801) 533-5771

September 27, 1977

Well File

Mr. W. Lee Kuhre,
Operations Coordinator
The Anschutz Corporation
1110 Denver Club Bldg.
518 Seventeenth St.
Denver, Colorado 80202

Re: Well No. Federal 675-#1
Section 9, T. 20S, R. 21E
Grand County, Utah

Dear Mr. Kuhre:

I've received your request to move this location an additional 200' from the original proposed location.

Section 9, T. 20S, R. 21E is not in a spaced area, so the General Rule C-3 is applicable. The original location was permitted under Section "C" of Rule C-3 for topographical reasons.

A review of the topographical area does not appear to warrant an exception to an exception. Therefore, this office cannot approve your request to move this within 120' of a ¼,¼ line.

Sincerely,

Patrick L. Driscoll

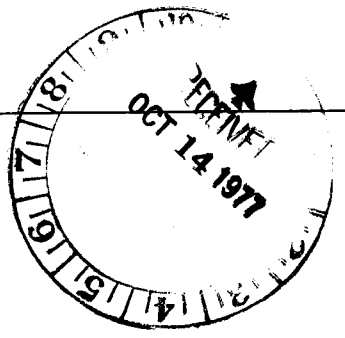
PATRICK L. DRISCOLL
CHEIF PETROLEUM ENGINEER

PLD/ko
cc: (1) Ed Guynn
(2) Well File

THE ANSCHUTZ CORPORATION

1110 DENVER CLUB BUILDING
518 SEVENTEENTH STREET
DENVER, COLORADO 80202
TELEPHONE 303—573-5665

825 6100



October 12, 1977

Well has been P7A

Patrick L. Driscoll
Chief Petroleum Engineer
Division of Oil, Gas and Mining
1588 West North Temple
Salt Lake City, Utah 84116

Re: Site move for Federal 675-2
NE NE Section 9-T20S-R21E
Grand County, Utah

Dear Mr. Driscoll:

According to our telephone converstation on October 4, 1977, I am submitting additional information pertaining to our request to move Federal 675-2.

The request to move the location is based on safety, environmental and operational considerations. As can be seen on the enclosed map, there are steep cliffs to the West and North of the location. These cliffs are very unstable and heavy equipment could easily cause boulders to fall and roll right to the original location. A 200' SE move would put the pad on the side of the smaller hill to the Southeast. If boulders would fall it is doubtful that they would be able to roll up to the proposed location. There are presently many huge boulders on the original location and no boulders on the proposed location.

Environmentally the proposed move would help also. Wherever the pad is, vegetation will have to be disturbed. This will result in errosion and cause water quality problems. Therefore, the move out of the drainage where the biggest volume of rain will be, will minimize this problem.

Mechanically, the move will reduce operational problems during storms or melting conditions. I am enclosing a copy of the Stipulation form I submitted to U. S. G. S. concerning this move. Please let me know if you need further assistance.

Sincerely,

W. Lee Kuhre

W. Lee Kuhre
Operations Coordinator

APPROVED BY THE DIVISION OF
OIL, GAS AND MINING
DATE: Oct. 17, 1977
BY: P L Driscoll

WLK:ch

Enclosures

le 30 R 221.20 requires well shall not be drilled closer than 200 ft. from the lease boundary or 200 ft. from any legal sub-division without adequate reasons or consent.

District Oil and Gas Engineer
U. S. Geological Survey
Conservation Division
8440 Federal Building
Salt Lake City, Utah 84138

Re: Stipulation

Dear Sir:

The Anschutz Corporation is the owner of U. S. Oil and Gas Lease U 5675-2, and proposes to drill a well on the leased premises to test for oil and gas at a location in the ¼NE ¼ NE¼ Section 9, T. 20S, R. 21E, Salt Lake Principle Mer., Grand County, State of Utah, 1000' from North line and 1000' from East line of Section 9.

Section 221.20 of the Federal Oil and Gas Regulations requires that no well be drilled less than 200' from the boundary of any legal subdivision without the written consent of the Supervisor, United States Geological Survey. The proposed location is approximately 120' from the South boundary line of the NE ¼ NE ¼ of Section 9, but is considered to be necessary because of safety and environmental reasons. In terms of safety, this 200' SE change will move the pad away from the base of two steep cliffs. Environmentally the move will get the pad out of the center of the drainage pattern. Approved on site by field USGS & BLM men.

Therefore, The Anschutz Corporation, Lessee, requests the consent of the Supervisor to the drilling of the proposed well at the above-described location. In consideration of such consent, The Anschutz Corporation, Lessee, hereby expressly covenants and agrees that he will make no separate assignments of the NE ¼ NE ¼ and the SE ¼ NE ¼, Section 9, T. 20S, R. 21E, Salt Lake Principle Mer., and that he will keep the two described subdivisions under joint assignment until the above-mentioned well has been plugged and abandoned with the approval of the Supervisor.

Very truly yours,

W. Lee Kuhre

The Anschutz Corporation

PLEASE SUBMIT IN TRIPLICATE

THE ANSCHUTZ CORPORATION

FEDERAL 675 No. 2

SECTION 9 - TOWNSHIP 20 SOUTH - RANGE 21 EAST

GRAND COUNTY, UTAH

GEOLOGIC REPORT

BY

WAYNE POWELL

DENVER, COLORADO

June, 1978

INDEX

	PAGE
Geologic Summary	1
Summary of Well Data	4
Formation Tops	6
Electric Logging Program	6
Log Analysis	7
Oil & Gas Shows	9
Summary of Daily Operations	11
Hole Deviation Record	12
Bit Record	12
Sample Log	Pocket

GEOLOGIC SUMMARY

The Anschutz Federal 675 No. 2 was spudded near the top of the Mancos shale and drilled to the total depth of 3517 feet, penetrating about 200 feet of the Salt Wash member of the Morrison. Primary objectives were sandstones in the Cedar Mountain and middle to upper part of the Salt Wash horizon, while the Dakota was slightly less prospective at this location. Production is established from various horizons in these formations to the west, north and east within one mile of this location. The following is a summary of the potentials and status of nearby wells.

Well & Location	Distance from Fed. 675-2	Fm. & I.P. or Tests
Valwood Production No 3 Bull Canyon NW NE Section 9	1/4 mile west	Salt Wash, IP 80 MCFD. (Tested 1.4 million CFGD while drilling with air-mist, poor completion-recovered green cement from perfs while completing well)
Toledo Mining No. 2 Bull Canyon NE NW Section 9	1/2 mile west	Salt Wash, IP 200 B.O. and 500 MCFD.
Anschutz Corp. No. 1 Federal 675 NE NW Section 10	1/2 mile east	Cedar Mtn., tested est. 400 MCFD and spray of oil before perfs. Currently pumping 25 BOPD and 60 MCFGPD.
Willard Pease No. 2 Calf Canyon NW SW Section 3	1/2 mile northeast	Dakota perfs, recovered water and 40 MCFD. Cedar Mtn. perfs, recovered water with a trace of oil. Status - not completed, possibly P & A.

Structurally, the Federal 675 No. 2 is about three-fourths mile southwest of the axis of the Cisco Dome anticlinal nose. This anticlinal trend appears to continue several miles in a northwesterly direction and about 20 miles to the southeast. On the Dakota Silt horizon, this well is structurally 125 feet lower than the Cisco Dome axis. It is 75 feet lower than the Federal 675 No. 1 to the east and about 35 feet lower than Bull Canyon No. 3, one-quarter mile to the west. Thus its structural position is 50 to 75 feet lower than anticipated. It may be low due to fault drag along the inferred fault which trends northeast-ward through this area. It can be speculated that a relatively low structural position has affected the entrapment of hydrocarbons. However, some of the producing wells to the north and west are at a similar or lower structural datum without being adversely affected. The oil and gas is stratigraphically entrapped in stream channel deposits, and the potential in some wells is probably enhanced by higher structural position. In other wells the reserves apparently result from stratigraphic variations within the individual channels.

The subject well was drilled with air to 3224 feet in the Morrison, then converted to air-mist and drilled to 3327 feet (3296 feet - log depth) without serious problems. It was then mudded up for logging and in preparation for completion or plugging. Logs were ran at this depth, 3327 feet, and without significant shows to this point, it was deepened to a total depth of 3548 feet (Log depth 3517 feet) to evaluate the middle and upper Salt Wash sands. The Morrison section below 3327 feet was drilled with mud.

Only a very poor show of oil and a weak show of gas were encountered in the air drilled portion of the hole. The oil show, at 3124 feet(log depth), in the Cedar Mountain consisted of a very light spray of oil for 2 minutes at the blooie line. A weak oil odor and trace of stain were found in samples. The well continued dusting after this brief show, and no significant fluid entry was noted. Porosity from log analysis in this four foot zone at 3122-26 feet was 16% with Sw of 73%. This is the productive horizon in the Anschutz Federal 675 No. 1 to the east, but it is apparently thin and lacks perneability in the current test. A weak show of gas was found in the Morrison at 3201 feet(3171 feet log depth). It lasted several minutes, but was intermittent and too small to measure. Water was encountered from this sandstone after drilling ahead. At 3224 feet (3194 feet log depth) the drilling method had to be converted to air-mist because of the large fluid entry. Log analysis of this sandstone at 3170 - 81 feet gives a porosity of 23% and water saturation of 82%. The show of gas may have been from the tighter zone on top at 3165 - 70 feet where porosity averaged about 16% and the water saturation was 70%. This sandstone horizon is not productive in any nearby wells and in most of the wells is absent or poorly developed. Only two clean sandstones were

developed in the Salt Wash section and no sample shows were found. The only indication of hydrocarbons was by log analysis in a three-foot zone from 3425 - 28 feet. Porosity was 15% and calculated water saturation was 43% in this interval. Since it is a very thin and probably discontinuous sandstone of marginal potential at best, it was not tested. Log correlation places this sandstone about 30 to 50 feet stratigraphically below the main productive sandstone in the Bull Canyon wells to the west.

In summary, the Dakota sandstones were tight and impermeable, the Cedar Mountain zone is thin and lacks significant porosity and the Salt Wash section had only one very thin zone of porosity. Only the Morrison sandstone at 3165 - 81 feet had a significant zone of porosity, but it contained water. The thicker Salt Wash sands, which are productive in the No. 2 and 3 Bull Canyon wells to the west, are very tight and nearly shaled out in this well. However, because of channel irregularities in these sandstones the adjacent locations to the north, and southwest still appear to have good possibilities, especially in the middle to upper Salt Wash sandstones and the Cedar Mountain formation. In addition, the Morrison sandstone at 3165 - 81 feet, with a slight gas show in the top, is a definite prospective horizon. Though seemingly less favorable, the thin sandstones in the Dakota may be productive and are considered highly prospective in the southeast quarter of section 4.

SUMMARY OF WELL DATA

OPERATOR:	The Anschutz Corporation
PARTNERS:	NARMCO
WELL:	Federal 675, No. 2
LOCATION:	1141 FNL, 859 FEL, NE NE Sec 9, T. 20 S., R. 21 E., Grand County, Utah.
ELEVATIONS:	KB: 5704 feet GL: 5694 feet
FIELD:	Cisco Dome, Calf Canyon Area.
DRILLING SUPERVISOR:	Guy Edwards, Casper, Wyoming.
CONTRACTOR:	Pease Drilling Co., Rig No. 1 Toolpusher -- Bill Truell. Type Rig: Failing Stratmaster. Power: Twin 671 GMC's. Pump: Ensco D-175 with Twin GMC 671. Derrick: L.C. Moore, telescope, 87 foot.
SPUD DATE:	May 22, 1978.
CEASE DRILLING DATE:	May 26, 1978.
COMPLETION DATE:	May 27, 1978. P&A
TOTAL DEPTH:	Log T.D. 3517 feet in Salt Wash. Drillers T.D. 3548 feet.
STATUS:	Dry & abandoned.
INITIAL POTENTIAL:	None.
HOLE SIZE & CASING:	Hole Size: 12 1/4" 0 to 220'; 7 7/8" 220 to 3548' Casing: 8 5/8" at 220 ft. with 160 sacks.
CORES:	None.
TESTS:	None.
LOGGING PROGRAM:	Sample Log 2500 - 3520 feet by Wayne Powell, & Stan Collins. Electric Logs 222 - 3515 feet by Schlumberge

SAMPLE INTERVAL:	30 foot --- 2500 to 3000 feet. 10 foot --- 3000 to 3520 feet.
CIRCULATE SAMPLES:	1 Hr. at 3520 feet - T.D., in Salt Wash.
SAMPLE CUTS & STORAGE:	Cloth bags to Am. Strat., Denver, Colo.
MUD PROGRAM:	Air drilled 0 to 3224 feet. Air-mist 3224 to 3327 feet. Mud drilled 3327 to 3548 feet, drillers TD.
WATER ZONES:	Morrison at 3170 - 82 feet, E - log depth, too much water to dust, converted to air-mist.
LOST CIRCULATION:	None.
COMPLETION DATA:	Spotted cement plugs as follows: Surface ---------- 10 sacks. 150 - 200 feet ----- 35 sacks. 2850 - 2950 feet --- 35 sacks. 3000 - 3150 feet --- 45 sacks.

FORMATION TOPS

Age	Formation	Depth	Datum	Interval Thickness
Cretaceous	Mancos	Surface	+5704	2954
	B/Dakota Silt	2954	+2750	38
	Dakota SS	2992	+2712	100
	Cedar Mountain	3092	+2612	36
Jurassic	Morrison	3128	+2576	188
	Salt Wash	3316	+2380	201
	Log Total Depth	3517	+2187	

ELECTRIC LOGGING PROGRAM

Company	Type Log	From	To
Schlumberger	Dual Induction - Laterolog	222	3511
Schlumberger	GR - Density - CNL	2500	3515

Log Analysis

Schlumberger

COMPANY THE ANSCHUTZ CORPORATION — WELL [redacted] 675-X

FIELD [illegible] — COUNTY GRAND — STATE UTAH

DEPTH	R_W	R_T	ϕ_D	ϕ_N	ϕ_{xp}	POROSITY %	WATER %	REMARKS
DAKOTA								
3165-3170	.3	13	13	20	16½		70	
3170-3181	.3	6	21	26	23½		82	
3121-3127	.3	18	15	17	16		73	
3110-3121	WASHED OUT, PROBABLY TIGHT							
3021-3023	.3	15	12	13	12½		100	
2864-2869	.3	20	11	13	12		100	

All interpretations are opinions based on inferences from electrical and other measurements and we cannot, and do not, guarantee the accuracy or correctness of any interpretations, and we shall not, except in the case of gross or willful negligence on our part, be liable or responsible for any loss, costs, damages or expenses incurred or sustained by anyone resulting from any interpretation made by any of our officers, agents or employees. These interpretations are also subject to Clause 4 of our General Terms and Conditions as set out in our current Price Schedule.

DATE 5/24/78 — LOCATION GRAND JUNCTION — ENGINEER [illegible]

SWS-1328-E

Log Analysis

Schlumberger

COMPANY: The Anschutz Corp. | WELL: Federal 675-2

FIELD: Cisco Dome | COUNTY: Grand | STATE: Utah

DEPTH	R_w	R_T	ϕ_n	ϕ_D	% POROSITY	% WATER	REMARKS
3329-36	.19	42	14	2	8	80	} Dirty
3343-47	.19	26	10	2	6	100	
3385-88	.19	24	11	2	6.5	100	
3425-28	.19	38	14	16	15	43	
3428-32	.19	48	11	9	10	59	
3446-54	.19	28	10	4	7	100	
3458-62	.19	30	10	9	9.5	79	
3462-67	.19	30	11	11	11	67	Dirty

DATE: May 27, 1978 | LOCATION: Grand Jct | ENGINEER: Gregory R. Taylor

OIL AND GAS SHOWS

SHOW & FM:	Show No. 1 in Cedar Mountain.
DEPTH:	3154 feet (3124 feet - log depth).
TYPE SHOW:	Sample and oil spray at blooie line.
LITHOLOGY:	Sandstone, white - light gray, fg - vfg, very calcareous.
POROSITY:	Maximum 16% on logs, appears tight in samples.
SAMPLE SHOWS:	Trace light stain, weak oil odor, very weak light yellow fluor.
BLOOIE LINE:	Brief spray of oil at blooie line for 2 minutes and continued dusting without making a significant amount of fluid.
DRILLING TIME:	No significant change, drilling 0.4 to 0.6 minutes per foot.
EVALUATION:	Very poor show of oil while drilling with air. Trace to no gas.

OIL AND GAS SHOWS - CON'T.

SHOW & FM:	Show No. 2 in Morrison Sandstone.
DEPTH:	3201 feet (Log depth - 3171 feet).
TYPE SHOW:	Slight sample show & brief gas flare.
LITHOLOGY:	Sandstone, white - light gray, fine-grained, sub - rd to sub - ang, sl. silceous, non-calcareous.
POROSITY:	Poor porosity in samples, log porosity 16.5 to 23.5% from 3165 to 3180 feet.
SAMPLES SHOWS:	Fair even fluor, no stain. (Unwashed samples covered with oily dust probably from the oil zone above at 3124 feet).
GAS SHOWS:	Had very weak, intermittent gas flare for several minutes at connection. Too weak to measure. Gas flare was followed by water at 3224 feet (3194-log depth)where the well had to be converted to air-mist drilling. No show of oil with gas. Had brief connection gas at 3234 feet -- log depth.
DRILLING TIME:	One minute per foot through show. One-half minute per foot above show.
EVALUATION:	Very poor gas show from top of sandstone which was water saturated.

SUMMARY OF DAILY OPERATIONS

DATE	DEPTH & OPERATION
May 1978	
22	0' - Spud well & set 8 5/8" surface casing at 220 feet with 160 sacks.
23	541' - Drilling with air.
24	2560' - Drilling with air.
25	3327' - Waiting on orders, ran logs from 11p.m. to 3 a.m. & telecopy logs to Denver. Convert to air-mist at 3224 feet and drilled to T.D., pumped mud slug (250 bbls.) into hole at T.D. for logging and plugging. Fluid level at 917 feet for logging.
26	3477' - Drilling with mud. Operator decided to drill 200 feet deeper to test sands in the Salt Wash.
27	3548' - Driller's total depth, reached at 10 p.m. Finished logging at 5 a.m. and telecopy logs to Denver. Log T.D. - 3517 feet. P & A this date, 5 - 27 - 78.

HOLE DEVIATION RECORD

DEPTH	DEGREES
500	3/4
1500	2
2000	1 1/4
2510	2

BIT RECORD

NO.	CO.	SIZE	TYPE	FROM	TO	FOOTAGE	HOURS
1	Reed	12 ¼"	31 GJ	0	220	220	5
2	Reed	7 7/8"	FP 51J	220	3327	3107	38
3	Reed	7 7/8"	FP 51J	3327	3548	221	32

Form 9-331
(May 1963)

U TED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

SUBMIT IN TRI 'ATE* (Other instructio on reverse side)

Form approved.
Budget Bureau No. 42-R1424.

SUNDRY NOTICES AND REPORTS ON WELLS

(Do not use this form for proposals to drill or to deepen or plug back to a different reservoir. Use "APPLICATION FOR PERMIT—" for such proposals.)

1. OIL WELL ☐ GAS WELL ☐ OTHER Dry Hole

2. NAME OF OPERATOR
The Anschutz Corporation

3. ADDRESS OF OPERATOR
555 - 17th Street, Suite 2400, Denver, Colorado 80202

4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements.* See also space 17 below.)
At surface
1141' FNL, 859' FEL

5. LEASE DESIGNATION AND SERIAL NO.
U-5675

6. IF INDIAN, ALLOTTEE OR TRIBE NAME

7. UNIT AGREEMENT NAME

8. FARM OR LEASE NAME
Federal 675

9. WELL NO.
No. 2

10. FIELD AND POOL, OR WILDCAT
Wildcat

11. SEC., T., R., M., OR BLK. AND SURVEY OR AREA
Sec. 9, T20S, R21E

14. PERMIT NO.

15. ELEVATIONS (Show whether DF, RT, GR, etc.)
5694' GR

12. COUNTY OR PARISH
Grand

13. STATE
Utah

16. **Check Appropriate Box To Indicate Nature of Notice, Report, or Other Data**

NOTICE OF INTENTION TO:				SUBSEQUENT REPORT OF:			
TEST WATER SHUT-OFF	☐	PULL OR ALTER CASING	☐	WATER SHUT-OFF	☐	REPAIRING WELL	☐
FRACTURE TREAT	☐	MULTIPLE COMPLETE	☐	FRACTURE TREATMENT	☐	ALTERING CASING	☐
SHOOT OR ACIDIZE	☐	ABANDON*	X	SHOOTING OR ACIDIZING	☐	ABANDONMENT*	☐
REPAIR WELL	☐	CHANGE PLANS	☐	(Other)			
(Other)				(NOTE: Report results of multiple completion on Well Completion or Recompletion Report and Log form.)			

17. DESCRIBE PROPOSED OR COMPLETED OPERATIONS (Clearly state all pertinent details, and give pertinent dates, including estimated date of starting any proposed work. If well is directionally drilled, give subsurface locations and measured and true vertical depths for all markers and zones pertinent to this work.) *

This well was spudded on 5-22-78 and drilled to a total depth of 3517' KB. Electric logs were run from T.D. to the surface casing. No zones of interest were indicated on the logs. It is intended to plug and abandon this well as follows:

Cement	Depth
45 sx	3000-3150'
35 sx	2850-2950'
35 sx	150-200'
10 sx	Surface w/marker

18. I hereby certify that the foregoing is true and correct

SIGNED Peter B. Doty TITLE Operations Coordinator DATE 5/15/79

(This space for Federal or State office use)

APPROVED BY _____ TITLE _____ DATE _____
CONDITIONS OF APPROVAL, IF ANY:

*See Instructions on Reverse Side

Form 9-330
(Rev. 5-63)

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

SUBMIT IN DUPLICATE* (See other instructions on reverse side)

Form approved.
Budget Bureau No. 42-R355.5.

WELL COMPLETION OR RECOMPLETION REPORT AND LOG*

RECEIVED
MAY 17 1979
DIVISION OF OIL, GAS, & MINING

5. LEASE DESIGNATION AND SERIAL NO.: U-5675

6. IF INDIAN, ALLOTTEE OR TRIBE NAME:

7. UNIT AGREEMENT NAME:

8. FARM OR LEASE NAME: Federal 675

9. WELL NO.: 2

10. FIELD AND POOL, OR WILDCAT: Wildcat

11. SEC., T., R., M., OR BLOCK AND SURVEY OR AREA: Sec. 9, T20S, R21E

1a. TYPE OF WELL: OIL WELL ☐ GAS WELL ☐ DRY ☒ Other

b. TYPE OF COMPLETION: NEW WELL ☐ WORK OVER ☐ DEEP-EN ☐ PLUG BACK ☐ DIFF. RESVR. ☐ Other

2. NAME OF OPERATOR: The Anschutz Corporation

3. ADDRESS OF OPERATOR: 555 - 17th St., Suite 2400, Denver, Colorado 80202

4. LOCATION OF WELL (*Report location clearly and in accordance with any State requirements.*)
At surface: 1141' FNL, 859' FEL
At top prod. interval reported below
At total depth

14. PERMIT NO. | DATE ISSUED

12. COUNTY OR PARISH: Grand | 13. STATE: Utah

15. DATE SPUDDED	16. DATE T.D. REACHED	17. DATE COMPL. (*Ready to prod.*)	18. ELEVATIONS (DF, RKB, RT, GR, ETC.)*	19. ELEV. CASINGHEAD
5/22/78	5/26/78	-5-27-78 P&A	5694 GR	5694'

20. TOTAL DEPTH, MD & TVD	21. PLUG, BACK T.D., MD & TVD	22. IF MULTIPLE COMPL., HOW MANY*	23. INTERVALS DRILLED BY	ROTARY TOOLS	CABLE TOOLS
3517' KB	Surface		→	0-3517	-

24. PRODUCING INTERVAL(S), OF THIS COMPLETION—TOP, BOTTOM, NAME (MD AND TVD)*: None

25. WAS DIRECTIONAL SURVEY MADE: No

26. TYPE ELECTRIC AND OTHER LOGS RUN: DIL CN-FD

27. WAS WELL CORED: No

28. CASING RECORD (*Report all strings set in well*)

CASING SIZE	WEIGHT, LB./FT.	DEPTH SET (MD)	HOLE SIZE	CEMENTING RECORD	AMOUNT PULLED
8-5/8"	24#	220	12-1/4"	160 sx	-0-

29. LINER RECORD

SIZE	TOP (MD)	BOTTOM (MD)	SACKS CEMENT*	SCREEN (MD)

30. TUBING RECORD

SIZE	DEPTH SET (MD)	PACKER SET (MD)

31. PERFORATION RECORD (*Interval, size and number*)

32. ACID, SHOT, FRACTURE, CEMENT SQUEEZE, ETC.

DEPTH INTERVAL (MD)	AMOUNT AND KIND OF MATERIAL USED

33.* PRODUCTION

DATE FIRST PRODUCTION	PRODUCTION METHOD (*Flowing, gas lift, pumping—size and type of pump*)	WELL STATUS (*Producing or shut-in*)

DATE OF TEST	HOURS TESTED	CHOKE SIZE	PROD'N. FOR TEST PERIOD →	OIL—BBL.	GAS—MCF.	WATER—BBL.	GAS-OIL RATIO

FLOW. TUBING PRESS.	CASING PRESSURE	CALCULATED 24-HOUR RATE →	OIL—BBL.	GAS—MCF.	WATER—BBL.	OIL GRAVITY-API (CORR.)

34. DISPOSITION OF GAS (*Sold, used for fuel, vented, etc.*) | TEST WITNESSED BY

35. LIST OF ATTACHMENTS

36. I hereby certify that the foregoing and attached information is complete and correct as determined from all available records

SIGNED Peter B. Doty TITLE Operations Coordinator DATE 5/15/79

*(See Instructions and Spaces for Additional Data on Reverse Side)

THE ANSCHUTZ CORPORATION

2400 ANACONDA TOWER
555 SEVENTEENTH STREET
DENVER, COLORADO 80202
TELEPHONE 303-825-6100
TWX 910-931-2620

May 18, 1979

P & A'd

Mr. Ed Guynn
District Engineer
U. S. Geological Survey
8426 Federal Building
125 S. State Street
Salt Lake City, Utah 84138

Re: Federal 675 No. 2
Sec. 9, T20S, R21E
Grand County, Utah

Dear Mr. Guynn:

Enclosed please find two copies of the Geologic Report and the Geological well log for the referenced location.

Very truly yours,

Peter B. Doty
Operations Coordinator

PBD:jp

√ cc: Cleon Feight